



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,837	01/25/2006	Young-Goo Song	21ST01555 US	7654
90323	7590	07/28/2010	EXAMINER	
Innovation Counsel LLP 21771 Stevens Creek Blvd Ste. 200A Cupertino, CA 95014			KIM, RICHARD H	
			ART UNIT	PAPER NUMBER
			2871	
			MAIL DATE	DELIVERY MODE
			07/28/2010	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/565,837	<b>Applicant(s)</b> SONG ET AL.	
	<b>Examiner</b> RICHARD H. KIM	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-7,9,11-13,15,17,18,20,22,23 and 26-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-7,9,11-13,15,17,18,20,22,23 and 26-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/19/10 has been entered.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. For instance, in regard to the claim limitation "wherein at least one intermediate portion is disposed at an inside of the opening window on the second insulation layer, and separated from the first insulation, wherein the at least one intermediate portion consists primarily of the first insulation layer", it is unclear how the at least one intermediate portion can be "separated from the first insulation" but then also consist "primarily of the first insulation layer". For examination purposes, examiner has interpreted the claim language to have the intermediate portion to consist primarily of the first insulation layer, and in which it is separated by another portion of the first insulation layer by a window.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1, 3, 7, 9, 13, 15, 18, 20 and 26-31 rejected under 35 U.S.C. 102(e) as being anticipated by Kim et al. (US 6,859,254 B2).

7. Re claims 1, 7, 13 and 18, Kim et al. discloses a device and method in Figures 1-3 comprising an array substrate including a transparent substrate (3) including a display region that displays an image, a peripheral region having a driving circuit (col. 1, line 65) for displaying an image through the display region, and a sealine region (22) that surrounds the display region to define the display region and the peripheral region; a first insulation layer (37) formed over the transparent substrate, the first insulation layer having an opening (62) window in the sealine region; a pixel electrode (38) formed on

Art Unit: 2871

the first insulation layer of the display region; and a second insulation layer (32) disposed between the first insulation layer and the transparent substrate, wherein the opening window extends through the first insulation layer to the second insulation layer, wherein at least one intermediate portion is disposed at an inside of the opening window on the second insulation layer, and separated from the first insulation layer (see Fig. 3B, ref. 32, 37, 62). At least two intermediate portions consisting of first insulation layer (37) and insulation layer (39) is disposed in the window. The first insulation layer (37) is thicker than insulation layer (39) and therefore the intermediate portion consists primarily of the first insulation layer. Kim et al. further discloses a color filter substrate (5) facing the array substrate; a liquid crystal layer (17) interposed between the array substrate and the color filter substrate; and a sealing member (22) formed at the opening window to bond the array substrate and the color filter substrate.

8. Re claims 3, 9, 15 and 20, Kim et al. discloses that the first insulation layer corresponds to an organic layer (col. 2, lines 24, 25).

9. Re claims 26-29, Kim et al. discloses that a height of at least one intermediate portion is substantially the same as a height of the interior edges of the window opening (Fig. 3B, ref. 62).

10. Re claim 30, Kim et al. discloses the device wherein the at least one intermediate portion consists of an insulation material (39).

11. Re claim 31, Kim et al. discloses the device wherein the first insulation layer in the at least one intermediate portion contacts the second insulation layer. The insulation layer (37) and insulation layer (39) can be interpreted as together forming a first

Art Unit: 2871

insulation layer (37, 39), in which case, the first insulation layer would contact the second insulation layer (32).

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 6 and 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (US 6,859,254 B2) in view of Kim et al. (US 2004/0036815 A1).

14. Kim et al. (US 6,859,254 B2) discloses the device previously recited, and further discloses the device comprising a switching device having a gate electrode (31), a drain electrode (36) that is electrically connected to the pixel electrode (38) and a source electrode (36), a gate line (11) electrically connected to the gate electrode, and a data line (13) that is electrically connected to the source electrode. However, the reference does not disclose that a portion of the data line overlaps with the pixel electrode.

15. Kim et al. (US 2004/0036815 A1) discloses a device wherein a portion of the data line (115) overlaps with the pixel electrode (120).

16. It would have been obvious to one having ordinary skill in the art at the time the invention was made for a portion of the data line to overlap with the pixel electrode since one would be motivated to reduce image deterioration (paragraph 15).

Art Unit: 2871

17. Claims 5, 11, 17 and 22 rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. in view of Seo et al. (US 6,822,717 B2).

18. Kim et al. discloses the device previously recited, but fails to disclose that the second insulation layer corresponds to a silicon nitride layer (SiNx).

19. Seo et al discloses that the gate insulation layer can be formed of an inorganic material, such as SiNx (col. 4, lines 20-24).

20. It would have been obvious to one having ordinary skill in the art to employ SiNx as the first insulation layer since SiNx is well known in the art to be used as an effective insulating layer material to insulate the gate lines and electrodes.

21. Claim 23 rejected under 35 U.S.C. 103(a) as being unpatentable over over Kim et al. (US 6,859,254 B2).

22. Kim et al. discloses the device previously recited, but fails to disclose that the liquid crystal layer is injected between the array substrate and the color filter substrate by a vacuum injection method.

23. It would have been obvious to one having ordinary skill in the art at the time the invention was made for the liquid crystal layer to be injected between the array substrate and the color filter substrate by a vacuum injection method. Examiner take Official Notice that injecting the liquid crystal layer using a vacuum injection method is well known in the art as an efficient and reliable means to forming the liquid crystal layer.

***Response to Arguments***

24. Applicant's arguments filed 6/23/10 have been fully considered but they are not persuasive.

25. In response to applicant's argument that Kim fails to disclose "at least one intermediate portion is disposed at an inside of the opening window on the second insulation layer, and separated from the first insulation layer, wherein at least one intermediate portion consists primarily of the first insulation layer", examiner respectfully disagrees according to the rejections above.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD H. KIM whose telephone number is (571)272-2294. The examiner can normally be reached on 9:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 2871

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Richard H Kim/  
Primary Examiner, Art Unit 2871